HPAI Lessons Learned

Notes from USPoultry meeting @Des Moines, IA (7/28-29)
and from USDA-APHIS fall planning document

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Summary of HPAI outbreak

- Largest animal health incident in US history
- First identified in Dec 2014 – Pacific flyway
- 211 commercial and 21 backyard premises in 21 states (top 2 states: MN=109, IA=71)
- Depopulation:
  - 7.5 million turkeys, 42.1 million layers and pullets
- Direct impact $1.6 billion; total >$3.3 billion
- Reassortment of Asian HPAI with North American LPAI
  = Eurasian-American virus (EA/AM)

Hard facts

- Iowa lost 31.5 million laying hens (40%) and 1.5 million turkeys†, economic hit of $1.2 billion.*
- Total of approx. 49.6 million birds affected‡.
- Total layers = 42.1 million, turkeys = 7.5 million; about 10% of the nation's egg layer population, and 7.5% of the turkey population‡.
- Resulted in 8,444 lost jobs in Iowa*, many of which will not be recovered.
- Iowa (32.6 million) continues to be the lead state in egg production, followed by Ohio (30.8 million).

†Iowa Department of Agriculture and Land Stewardship
*Iowa farm bureau federation, 8/18/15
‡ USDA-APHIS, Weekly National Situation Report, 10/30/15

Summary from USDA epidemiologic study for HPAI 2015 (Brian McCluskey)

- **Turkeys**
  - Lack of designated parking for employees = high risk
  - Lack of biosecurity audits = high risk
  - Sharing equipment between farms = high risk
  - Ceiling or other type inlet vs curtain-sided barns = protective

- **Layers**
  - Located in control area = high risk
  - Garbage pick ups/rendering pick up close to houses = high risk
  - Visitors not having a change of clothes = high risk
  - Barn entry ways have hard surfaces routinely disinfected = protective

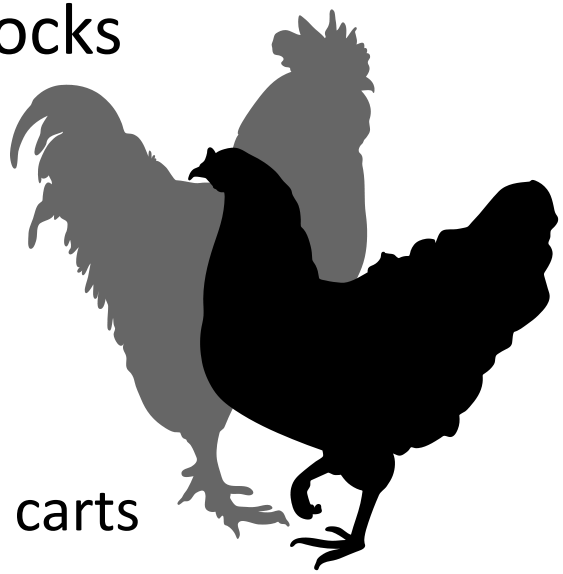
Notes from AI lessons learned conference, 7.28.15

Biosecurity Plans – potential gaps

- No compliance monitoring.
- Audits infrequent, concerns as to if they are accomplishing what they need to?
- Need site-specific plans, site-specific risk assessment.
- Biosecurity is inconvenient. Need good incentive program for the producers, crews, contractors, etc to "buy-in."

Depopulation

- <u>Euthanasia ≠ Depopulation</u>
- Need to be able to mass depopulate flocks (goal: <24 hours).
- Methods available:
  - Fire-fighting foam (Kifco)
  - Whole house/partial house CO_2
  - CO_2 in MAK (modified atmosphere killing) carts
  - VSD = ventilation shut down*
    - Non-preferred but USDA would not prevent states or producers from using this method if only method to accomplish needs.



Ventilation Shut Down

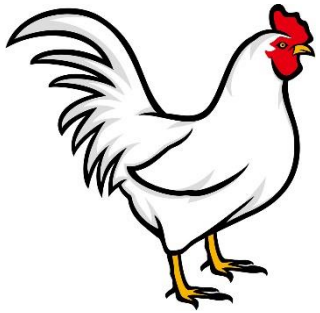
- VSD recently approved as alternative method by USDA for emergency depopulation.
- AAAP Poultry Welfare Committee drafted and the Board of Directors approved a position statement on emergency mass depopulation on a case-by-case basis, taking care to consider species, housing and environmental conditions, currently available methods, and resources.
- VSD may be the ONLY option in multimillion layer operations to achieve <24 hr depop

Refocus from C&D to virus elimination

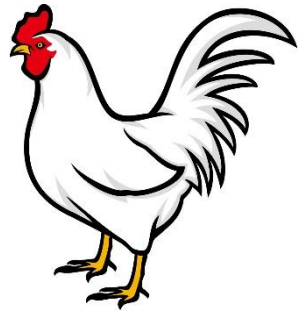
- Once flock is depopulated and birds are disposed, goal is to restock with lowest risk of re-infection.
- Shift from classical wet cleaning and chemical disinfection to less labor intensive methods.
- Heat house at 100-120F for 7 days, minimum 3 days consecutive, adequate to eliminate HPAI.
- USDA will use this method for future outbreaks; however up to producer to add disinfection step. Some may not feel this process is important – that is up to them. (goal is negative test and no RNA detection to get the 21 day clock started!)

Disposal

- >98% disposal was a combination of composting and on-site burial (~500,000 birds by landfill and incineration).
- Iowa Landfill situation:
  - 40+ smaller landfills, primarily municipal
  - 4-5 privately owned, larger sites
  - 15-acre landfills in Iowa. Only 4 acres (1 landfill) were actually used in the last outbreak.
  - Concerns with depth of waste for destroying the virus
  - Other problems: no fluids allowed on landfills, leachate in wet months, municipals worried for repercussions, etc.



Summary from HPAI Lessons Learned meetings



- Rapid depopulation (goal <24 hours) appears to have significant impact on reducing spreading of the virus and is being pursued for future use.
- Need for a more site-specific biosecurity plan.
  - Biosecurity ≠ Biocontainment; risk-managements critical.
- Depop, disposal, C&D done by producers and contractors vs state/federal employees. >> Have your own plan for these measures **NOW**

My personal “lessons learned”

- We lag behind some other states on locating flocks – obtain premise ID’s now for timely epi work. We missed a lot of opportunities this spring with our index cases.
- We need to be better at communication. Establish a producer-driven communication network for the state, region, as well as internal communication. Be candid (you get what you put in).
- Biosecurity is inconvenient. We could have the best biosecurity plans laid out now, but this will deteriorate over time unless it’s incentivized.
- Vaccines are another can of worms. Vaccination = accepting endemic state. No guarantee this virus will return in fall.
- Nobody was prepared for this. Plan for worst-case scenario and don’t rely on others. Feds will look to state for response.